

CLAIMS:

1. A loudspeaker comprising an acoustic panel having a first main surface and, extending substantially parallel thereto, a second main surface and comprising an electrical exciter arranged on the first main surface, the panel producing acoustic radiation upon energization of the exciter, at least subsequently as a result of bending waves produced in the panel, characterized in that the loudspeaker has a tuning element disposed near the second main surface and extending at least partly opposite the exciter, so as to form a resonant cavity between the panel and the tuning element.

2. A loudspeaker as claimed in claim 1, characterized in that the tuning element is disc-shaped and extends at least substantially parallel to the panel.

3. A loudspeaker as claimed in claim 1, characterized in that the tuning element is annular and extends at least substantially parallel to the panel.

4. A loudspeaker as claimed in claim 1, characterized in that the tuning element is secured to the panel.

5. A loudspeaker as claimed in claim 1, characterized in that a shortest distance in the range from 1 to 4 mm exists between the tuning element and the panel.

6. A loudspeaker as claimed in claim 1, characterized in that near the second main surface the loudspeaker is provided with an acoustically transparent cover which extends at least substantially parallel to the panel, the tuning element being integrated in the cover.

7. A loudspeaker as claimed in claim 1, characterized in that the panel has two walls extending at least substantially parallel to each other and connected to each other and has a structure of strip-shaped partitions extending between the walls of the panel, the longitudinal axes of all of said partitions extending at least parallel to each other and parallel

to the walls, said partitions being further secured to the walls, the walls and the partitions being made of a material which, used in the panel, has an internal damping which is at least 2.5% of the critical damping of the relevant material, used in the panel.

5 8. A loudspeaker as claimed in claim 7, characterized in that the partitions extend at least substantially parallel to each other and extend at least substantially perpendicularly to the walls.

9. A loudspeaker as claimed in claim 1, characterized in that the loudspeaker has
10 a frame, the panel being connected to the frame with the aid of a connecting means, the connecting means comprising an annular strip of a soft material, which strip is interposed between a circumferential edge portion of the panel and a portion of the frame.

10. A loudspeaker as claimed in claim 1, characterized in that the loudspeaker has
15 a rear wall which extends at least substantially parallel to the panel, which rear wall forms a cavity with the panel, the rear wall being formed with one or more frequency-tuned apertures.